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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/643,435	08/19/2003	John H. Rosenfeld	H1799-00222	4422

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EXAMINER

PATEL, NIHIR B

ART UNIT PAPER NUMBER

3743

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/643,435	<b>Applicant(s)</b> ROSENFELD ET AL. <span style="float: right;">ED</span>	
	<b>Examiner</b> Nihir Patel	<b>Art Unit</b> 3743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on August 19<sup>th</sup>, 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☐ Claim(s) \_\_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12.01.2003</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 10, 11, 13, 14, and 16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Referring to claim 10, the applicant claims a magnesium alloy vessel that is free of aluminum and zinc whereas in the specifications the applicant states that the vessel is substantially free of aluminum and zinc.

Referring to claims 11 and 14, the applicant claims that the magnesium alloy vessel has less than 1% weight aluminum and zinc whereas in the specifications the applicant states that the vessel is substantially free of aluminum and zinc.

Referring to claims 13 and 16, the applicant claims that the gettering metal comprises about 0.6% by weight zirconium alloy whereas in the specifications the applicant states that the getting metal comprises 0.6% by weight zirconium alloy.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

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the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4, 6, 7 and 10-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over McKeon US Patent No. 4,969,420 in view of Ikeda et al. US Patent No. 6,263,959. McKeon discloses the applicant's invention as claimed with the exception of providing a vessel having a hollow interior cavity at least partially covered by a wick structure. Ikeda discloses a plate type heat pipe and cooling structure using it that does provide a vessel having a hollow interior cavity at least partially covered by a wick structure. Therefore it would have been obvious to modify McKeon invention by providing a vessel having a hollow interior cavity at least partially covered by a wick structure as taught by Ikeda in order to improve the heat transfer process.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over McKeon U.S. Patent No. 4,969,420 in view of Kolesnik et al. U.S. Patent No. 4,292,345.

McKeon discloses the applicant's invention as claimed with the exception of stating that the stable protective layer is an oxide or nitride protective layer.

Kolesnik discloses a method of protecting carbon-containing component parts of metallurgical units from oxidation that does state that the stable protective layer is an oxide. Therefore it would have been obvious to modify McKeon's invention by stating that the protective layer is an oxide in order to make the magnesium water tank more corrosion resistant.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over McKeon U.S. Patent No. 4,969,420 in view of Koch U.S. Patent No. 4,980,133.

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McKeon discloses the applicant's invention as claimed with the exception of stating that the vessel is a heat pipe and/or a pumped-loop system.

Koch discloses an apparatus comprising heat pipes for controlled crystal growth that does state that the vessel is a heat pipe. Therefore it would have been obvious to modify McKeon's invention by stating that the vessel is a heat pipe in order to make the working fluid flow smoothly.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over McKeon U.S. Patent No. 4,969,420 in view of Hyman U.S. Patent No. 5,771,967.

McKeon discloses the applicant's invention as claimed with the exception of providing ammonia as the working fluid.

Hyman discloses a wick-interrupt temperature controlling heat pipe that does provide ammonia as the working fluid. Therefore it would have been obvious to modify McKeon's invention by providing ammonia as the working fluid in order to speed up the cooling process.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over McKeon U.S. Patent No. 4,969,420 in view of Buhrer U.S. Patent No. 4,197,957.

McKeon discloses the applicant's invention as claimed with the exception providing zirconium alloy that's about 0.6% by weight.

Buhrer discloses a vacuum tight assembly that does provide zirconium alloy. Therefore it would have been obvious to modify McKeon's invention by providing zirconium alloy in order to increase the corrosion resistance capacity on the vessel.

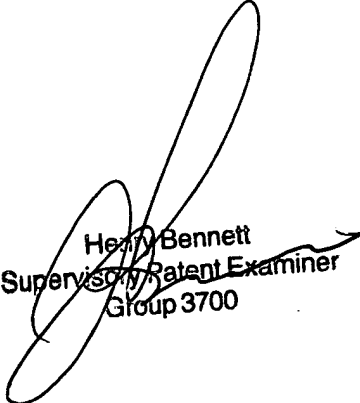
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***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Nihir Patel whose telephone number is (571) 272-4803. The examiner can normally be reached on Monday-Friday from 7:30 am to 4:30 pm. If attempts to reach the examiner by telephone are unsuccessful the examiner supervisor Henry Bennett can be reached at (571) 272 4791.

NP  
April 1<sup>st</sup>, 2005

  
Henry Bennett  
Supervisory Patent Examiner  
Group 3700